

ABSTRACT OF THE INVENTION

The invention provides isolated nucleic acid molecules encoding polypeptides having 2,5-DKG permease activity, and oligonucleotides therefrom. The isolated nucleic acid molecules can be expressed in appropriate bacterial cells to enhance the production of 2-KLG, which can subsequently be converted to ascorbic acid. Further provided are isolated polypeptides having 2,5-DKG permease activity, immunogenic peptides therefrom, and antibodies specific therefor. The invention also provides methods of identifying novel 2,5-DKG permeases.